

gray scale illumination during a frame [period]time comprising the steps of:

subdividing [dividing] said frame [period]time into a plurality of LOAD periods and a plurality of ILLUMINATE periods[, where each LOAD period is followed by an ILLUMINATE period];

[applying, during each of said LOAD periods, a data signal to said circuit along a data line and applying a select signal to said circuit along a select line]loading, during each LOAD period, data from a data line into said circuit;

[storing, during each of said LOAD periods, said data line signal within said circuit;] and

[applying] varying, during each of said ILLUMINATE periods, a voltage on the data line[, a current to said electroluminescent cell and said circuit, where]to selectively illuminate said electroluminescent cell [is selectively illuminated] in response to said [current]voltage and said ~~stored~~ data [line signal].

10. (amended) The method of claim ⁸10 wherein said [gray scale control signal] voltage on said data line is [has] a linear ramp [waveform over the plurality of ILLUMINATE periods within one frame period].

11. (amended) The method of claim ⁸11 wherein said [gray scale control signal has a stepped waveform] voltage on said data line is a step function[over the plurality of ILLUMINATION periods within one frame period].

12. The method of claim 8 wherein, during each ILLUMINATE period, a high voltage power supply applies at least one pulse to said circuit and, in response to said voltage, said at least one pulse is applied to said electroluminescent cell. [said data signal is a digital signal containing a plurality of bits where each bit is

applied to said circuit during a plurality of consecutive LOAD periods].

sub
Fig
10a

14. (twice amended) An electroluminescent display comprising an array of pixels for providing gray scale illumination during a frame [period]time, where said frame [period]time is divided into a [plurality]number of LOAD [periods]and [a plurality of]ILLUMINATE periods[, where each LOAD period is followed by an ILLUMINATE period], each pixel comprising:

a first transistor and a second transistor;

(1) 3
said first transistor having a first transistor gate, a first transistor source and a first transistor drain, where said first transistor gate is connected to a select line, said first transistor source is connected to a data line and said first transistor drain is connected to a second transistor gate of said second transistor;

said second transistor having said second transistor gate, a second transistor source and a second transistor drain, where said second transistor source is connected to said data line and second transistor drain is connected to an electroluminescent cell;

during each of said LOAD periods and when a select line signal on the select line activates the first transistor, said data line supplies, through said first transistor, a data signal to the second transistor gate where said data signal is stored; and

during each of said ILLUMINATE periods, said data line supplies a [gray scale control signal]voltage to said second transistor[, when said data signal stored at said second transistor gate exceeds the gray scale control signal on said data line, said second transistor applies energy from a power supply to] to control illumination of said electroluminescent cell.

Sub F7
D6
15. (amended) The display of claim 14 wherein said [gray scale control signal]voltage is [has] a linear ramp [waveform over the ILLUMINATE period].

16. (amended) The display of claim 14 wherein said [gray scale control signal]voltage is a step function[has a step waveform over the ILLUMINATE period].

Sub F8
D7
20. (twice amended) An electroluminescent display an array of pixels for providing gray scale illumination during a frame [period]time, where said frame [period]time is divided into a [plurality]number of LOAD [periods]and [a plurality of]ILLUMINATE periods[, where each LOAD period is followed by an ILLUMINATE period], each pixel comprising:

a control circuit, connected to a select line, a data line and a first electrode of an electroluminescent cell, for selectively applying energy to said electroluminescent cell in response to signals carried by said select line and said data line;

during each of said LOAD periods and when a select line signal on the select line activates the control circuit, said data line supplies a data signal to the control circuit where said data signal is stored; and

during each of said ILLUMINATE periods, in response to a state of said stored data signal, said control circuit applies pulsed energy from a power supply means to a second electrode of said electroluminescent cell for a particular period of time.

Sub F9
D8
22. (amended) The display of claim 20 wherein a number of ILLUMINATE periods and LOAD periods that are used to illuminate said electroluminescent cell during a frame [period]time is equivalent to a number of bits [in said data signal]used to define a number of levels of gray.